

THE



NEWSBEEET

The Burning Question:

How Can We Better Control Cercospora Leafspot?

The widespread outbreak of Cercospora leafspot during 2015 is a harsh reminder that we can never let our guard down! We must be vigilant implementing tried and true — and new — practices and programs that work to combat this costly disease.



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ROOT OF THE BUSINESS

by Mark Flegenheimer, President and Chief Executive Officer

2015 — A RECORD BREAKER AND A WAKE-UP CALL

I am continually amazed how often we break records with higher and higher yields. The 2015 crop will be remembered as the one that broke the 30-ton per acre barrier! This is an accomplishment that was unimaginable ten years ago. This new benchmark is the result of a combined effort; ever-improving seed varieties, innovative agronomic practices; insightful research; abundant moisture and sunshine.

Unfortunately, the 2015 crop will also be remembered as the one where *Cercospora* leafspot devastated large swaths of acreage. This infection reduced our overall sugar content by over 1% and held back yields by one or two tons per acre, on average. The widespread outbreak of leafspot is a harsh reminder that we can never let our guard down. We must constantly:

- Challenge the seed companies to develop resistant varieties that are high yielding and high quality
- Implement agronomic practices that reduce the threat of diseases, including utilizing spray programs that are proven to be effective
- Research practices that are most likely to minimize risks, while maximizing RWSA

The reduction in sugar content caused by leafspot cost growers, on average, \$5 per ton. With this year's crop producing over five million tons of beets, this outbreak will cost our Cooperative at least \$25 million. While weather conditions were ideal for leafspot this past year, it would be a mistake if we tried to blame it only on climatic conditions. This issue of *The Newsbeet* is focused on practices and programs that work to combat this costly disease. I hope you read it thoroughly and utilize our experts' recommendations as you make plans for your 2016 crop.

We know what needs to be done to keep leafspot in check. Growers adapt to changing conditions quickly and rapidly adopt new, best practices in order to maximize their returns. We can learn a lot from the 2015 crop:

- Yield potential is phenomenal
- Seed varieties make a big difference
- Older spray programs are not effective
- Newer treatment practices work well

I am confident our shareholders will make the necessary changes to protect their 2016 crop. With the support of the seed companies, implementation of best agronomic practices, and a strong commitment to research, how long will it be before our average yield eclipses 35 tons per acre? ■





CROP UPDATE: A RECORD-SETTING YEAR!

by Paul Pfenninger, Vice President of Agriculture

It was a good planting season and a good growing season. When pre-harvest samples were collected for the first time in late July, it became apparent that this crop had potential. Our first field sample from over 200 different fields indicated that stand counts (beets/100' row) were the best ever at 207 and sample weight was very impressive. A second sample in mid- August confirmed what everyone was thinking — this could be a record-setting year

Decisions were made and plans put into place to start harvest on Thursday, August 20. The August lottery was already in place and we did open for delivery at all factory sites, except Croswell, on August 20. We were able to secure enough beets for factory operations to start on August 22.

The crop responded to the available moisture, but could not withstand the heavy pressure from Cercospora leafspot. Heavy rains, just prior to Labor Day (September 3), followed by some extremely hot and humid weather, allowed Cercospora to negatively impact better than half our crop causing a severe dip in overall sugar content.

There were a total of 56 early delivery days, including Labor Day itself. Below are the stats from our Early Delivery harvest:

EARLY DELIVERY HARVEST / AUGUST 20 – OCTOBER 16	
Tons Received	1,256,088 Tons (26%)
Tons Sliced	1,168,709
Number of Loads	35,689
Average Tons/Load	35.20
Beets from Maus Operations	535,835 Tons (43%)
Finished Contracts	30,846 Acres
Yield on Finished Contracts	28.69 Tons/Acre
Sugar Content	16.3%
Clear Juice Purity	95.53
RWST	239.26

In addition to all the Maus beets, we were able to ship 706 loads of rail from Deckerville to Bay City. The August 20 start to harvest matched our earliest start ever, back in 2012, and sets the stage for years to come.

With the anticipated record-setting crop, a set aside program was implemented on August 28. Growers were able to bid whole contracts on a per-acre cost basis and submit them for possible set aside. A total of 11,045.8 acres were submitted into the program. On October 9, we released 1,765 acres followed by another 1,775 acres on October 16. The goal was to have five million tons, at most, for processing which would mean a slice finish date of March 25. As harvest continued and yield estimates were tabulated, it was decided to harvest all acres; therefore, there would be no set-aside acres.

We were able to start long-term storage piles on October 17 — three days earlier than anticipated, as favorable storage temperatures arrived early. We soon lost the advantage of our early start as temperatures soared above normal for most of late October and early November. There was a total of ten days between October 20 and November 6 when beet receiving was closed due to warm temperatures. We were able to sneak three record-setting days into our 2015 harvest season. The old record was 303,881 tons set in October of 2012.

RECORDS BROKEN IN 2015		
October 23	320,083 Tons	11,098 Loads
October 26	347,702 Tons	11,732 Loads
October 27	354,628 Tons	11,829 Loads
1,022,413 Tons Delivered		20% of Total

There was a 4.5-day delay in harvest from November 2 to November 6 when daytime temperatures averaged 72.9° and nighttime lows were 43.1°. This was a good 20 degrees above normal! Not only did it stop delivery, but it also put added pressure on the three million tons already in storage.

We were able to find four reasonable days of harvest from November 7 through November 11 and harvest passed the 95% mark for completion. We did not see the final ton cross the scales until November 25, 2015.

It was a challenging and long harvest season due to numerous shutdowns because of warm temperatures. The temperatures for the entire month of October and November were way above normal. They say we will have a warm and dry winter due to a strong El Nino. Let us hope we have a good storage season in spite of the warmer than normal forecast.

Crop Year 2015 will always be remembered as a record-setting year — our first year with an average yield over 30 tons/acre (31.7) and our first year with total tons over the five million ton mark. If there was any disappointment in the crop itself, it was the sugar content. Leafspot really hurt our grower sugar content, but we believe it is a “teachable moment.” We will learn from this experience and improve our chances for 2016.

Our goal is to have another record-setting year in 2016. Congratulations on your record-setting crop of 2015! ■

“It was a good planting and a good growing season. Even with the negative impact of Cercospora leafspot on sugar content, 2015 was a record-setting year!”



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HOW WASHINGTON AFFECTS YOU:

Agreements, Initiatives, Acts and Amendments

by Ray VanDriessche, Director of Community and Government Relations

Update on Biotech Labeling Legislation

In an effort to preempt states from passing a hodge-podge of individual labeling laws, such as the legislation passed in Vermont, the Safe and Accurate Food Labeling Act (HR 1599) was passed by the House in July. HR 1599 establishes a federal standard for the labeling of biotech-derived foods giving the Food and Drug Administration oversight on labeling regulations and standards. Unfortunately, the House version did not find enough support in the Senate Ag Committee because of what was believed to be a lack of transparency. The Coalition for Safe Affordable Food, comprised of the Grocery Manufacturers Association, food distributors, and a number commodity organizations, worked closely with Senate leadership to find a compromise to HR 1599. In a very well organized effort to address the concerns of the Senate and share ideas to address the transparency issue, more than 150 stakeholders from 22 states flew in to make visits on the Hill to gain support for a federal standard for GMO labeling requirements. With the Vermont legislation taking effect in July of 2016, business decisions would need to be made for ordering of packaging and printing requirements in the near term. A compromise and passage of the bill by the end of 2015 was the goal of the Coalition, but in mid-December, it became clear that more time was needed to find the right solution for the Senate to pass the legislation and negotiations



Trade Agreements

TPP Trade Agreement Finalized in October — The negotiations of the Trans Pacific Partnership (TPP) were finalized in early October by our USTR trade representatives after years of sensitive negotiations which included 11 other countries. USTR negotiators worked closely with sugar industry leadership to hold additional access of imported sugar into the U.S. market at a minimum. The final negotiations resulted in approximately 86,000 tons of additional access to the U.S. sugar market. Currently, there is no schedule for Congressional consideration and approval of the TPP trade agreement, but it is expected to take place in the first half of 2016.



WHAT IS WOTUS?

Under the **Clean Water Act**, the federal government has jurisdiction over “navigable waters” — bodies of water where interstate transportation or commerce could take place. WOTUS, Waters of the United States, defines which bodies of water are “navigable waters” and all under federal jurisdiction.

Programs, Acts and Amendments

Clean Water Act (WOTUS) — In early October, the 6th Circuit Court of Appeals in Cincinnati ruled that the injunction that had been filed by 13 individual states against the EPA to stop the implementation of the over-reaching Clean Water Act would now be in effect nationwide. The filing of the injunction against the EPA was one of many initiatives, both in the court system and legislatively, to stop the EPA from implementing new authority and regulations in connection with “navigable waters,” wetlands, and drainage systems. The EPA has made it clear that they fully intend to implement the Clean Water Act, as published, despite the thousands of comments filed against the rules during the public comment period. Legislators are now studying other options to stop the EPA from implementation of the Clean Water Act.

Crop Insurance Funding Cuts — In the House Budget Bill negotiations, \$3 billion in funding cuts over ten years to the crop insurance program were inserted at the last minute, surprising even the leadership of the House Agriculture Committee. The cuts would have had a devastating impact on one of the last risk-management tools that farmers have to mitigate losses from bad weather and disasters. After heavy pressure from Ag commodity groups and Ag state legislators, the Senate recognized that a fix to the cuts was necessary and a way to reinstate the crop insurance funding would need to come from a source not within the farm bill program. In early December, the Senate utilized the Transportation Bill as a vehicle to insert an “alternative funding mechanism” to reinstate the crop insurance funding. The Transportation package was passed in the first week of December by a large majority with the fix to crop insurance funding inserted.



Congratulations to the American Sugarbeet Growers Association, who recently celebrated its 40th anniversary of representing representing sugarbeet growers in Washington D.C.!



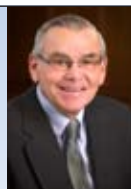
Preparation for the 2016 Elections

A significant number of Congressional legislators have announced their intentions to retire and not run for office again in the upcoming November elections. Congresswoman Candice Miller of the 10th District, who is one of our industry champions, and 1st District Congressman Dan Benishek, who was an unwavering supporter and served us well on the Agriculture Committee, are among those who have announced their retirement. We would like to sincerely express our appreciation to them for their tireless efforts on behalf of Michigan Sugar Company and the U.S. sugar industry.

Please take the time to study the background and policy statements of candidates who are running for office in the upcoming elections. Your vote will determine who the legislative decision makers will be who will influence the success or difficulties that your business will face in the future.

Growers PAC Fund Update

Thanks to all who have contributed to Michigan Sugar Company Growers PAC Fund! You have allowed your company and industry representatives the ability to educate legislators and keep them up to speed on critical sugar industry issues. ■



Ray VanDriessche, Michigan Sugar Company's Director of Community and Government Relations, is also a third-generation farmer in mid-Michigan. He travels to both Lansing and Washington D.C. often to follow and advise on political activity that will affect agriculture in Michigan.

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The Burning Question:

How Can We
Better Control
Cercospora
Leafspot?



In the 2015 Michigan growing season, *Cercospora* leafspot infections reached epidemic levels. Many fields “burned” completely to the ground, reducing sugar content and tonnage. Each one percent reduction in sugar lowers recoverable white sugar per ton (RWST) by approximately 15 pounds which reduces payment by approximately five dollars per ton. With the loss of leaves, a sugarbeet plant will put all of its energy into re-growing leaves at the expense of sugar and tonnage. Some estimates have the cost to the Michigan industry at \$25 million for 2015.



The Ugly Truth About Cercospora Leafspot

Ten Factors That Affected Control of this Crop Disease in 2015

by Steve Poindexter, Senior Sugarbeet Educator
Sugarbeet Advancement, MSU Extension

Many growers are asking the question of why things went so wrong when they followed the same procedures as previous years when they had good control. For some, doing the same thing as previous years was part of the problem. The following are ten factors that led to high leafspot levels in 2015.

1 High disease pressure year. Environmentally, 2015 had some periods of ideal weather conditions for leafspot infection, as compared to previous years, especially in late August and early September. Additionally, excellent growing conditions led to a large canopy, which created a microclimate that was slow to dry.

2 Growers stopping their spray program too early — not enough applications. There is no way to determine, in advance, how many fungicide applications will be needed in any given year. Do not lock yourself into a predetermined amount of sprays. In normal years, it is recommended that growers apply last spray covers through September 15. In 2015, many growers left canopies unprotected at the end of August. During this period BEETcast DSVs were rapidly increasing, indicating ideal infection conditions. This, coupled with an extended warm fall, and leafspot levels exploded.

3 Interval length between sprays that were too long. Producers should not significantly exceed the re-application day interval recommended on the fungicide label. At times, following only BEETcast DSVs may extend the re-application window well past the label's number of days. This may have been a problem in 2015 for many growers who stretched applications to 25-30 days in July and early August when BEETcast DSVs were not adding very fast. Also, be aware contact fungicides can be washed off when significant rain occurs and may need to be reapplied sooner. Stretching spray intervals too far will also leave new growth unprotected caused leafspot levels to explode.

4 Disease resistance to strobilurin fungicides. In the last few years, growers have been alerted to the fact that the strobilurin fungicides (Headline, Gem, and Priaxor) are not as effective as they once were. The *Cercospora* organism has built up resistance to the fungicide. That means every time you apply the material, there are *Cercospora* spores that are not controlled and are infecting the plant. Often, growers are applying a strobilurin at the second spray interval, thus leaving us vulnerable to infection early in the season. If a strobilurin is used (Michigan Sugar Company does not recommend their use), it should always be tank mixed with an EBDC and the retreatment interval never longer than 7-10 days.



ABOVE: Complete foliage burndown from *Cercospora* leafspot will significantly reduce tonnage, sugar content, and growers' income.

5 Lack of tank mixing all applications. In the last survey conducted in the winter 2014 grower meetings, only 49% of the growers indicated that they always tank mix fungicides with two different modes of action, 5% never tank mix, and 12% only tank mix when using a strobilurin. Though tank mixing does take more time and can be inconvenient, it is a small price to pay for better control and fighting fungicide resistance. The triazoles are the only strong class of fungicides left for leafspot control and there are indications that their effectiveness maybe weakening.

6 Tank mix partners that are not strong. The most common reason growers have indicated for not tank mixing is due to mixing issues, particularly with the EBDC compounds, which are not particularly strong at disease control. In some cases, growers have switched to alternative fungicides that tank mix better, but have reduced efficacy.



7 Not using TIN. It has been a well-known recommendation that in order to fight *Cercospora* resistance to fungicides that we need to utilize different fungicide modes of action. Growers' reluctance to utilize TIN products has not helped the situation. This product is relatively cheap and is the most effective of the contact materials. TIN products have been applied safely for years in other growing areas and are gaining acceptance in Michigan.

8 Planting highly susceptible varieties. Although the varietal resistance continues to improve, some of the best yielding and nematode resistant varieties continue to be highly susceptible.

9 Late timing of first application. This is less of an issue than it used to be since BEETcast is very good at predicting the environmental conditions that allow leafspot infections. Be certain to start the first spray application before the disease is seen. Allowing leafspot to establish early has never been a successful approach to disease management. Over 50 BEETcast stations are strategically located throughout the Michigan/Ontario growing region. This tool is extremely valuable in helping to time application intervals.

10 Not using the best spray practices (pressure, volume, and rate). This is probably not as big an issue as some of the other factors, but growers continue to make applications at less than ideal volume and pressure, especially when mixing with glyphosate.

In conclusion. Every growing season is different in the environmental conditions that can make leafspot develop and when they occur. Follow recommended fungicide application intervals outlined in the REACH Management Guidelines for Controlling *Cercospora* Leafspot bulletin (found on the Michigan Sugar Company website under REACH). These recommendations are based on BEETcast recommendations for your zone, variety tolerance, and material used.

For 2016, do not underestimate the impact leafspot can have on sugar-beet yield and quality. *Cercospora* leafspot is a community disease. An infested field is a source of inoculum for surrounding fields. By not effectively controlling this disease in 2015, this epidemic will have a long tail. Growers will need to be vigilant in future control measures, because disease inoculum levels will be high for the next few years. Given the right environmental conditions the outbreak can happen again.



Steve Poindexter is the Senior Sugarbeet Educator with Sugarbeet Advancement, MSU Extension. Steve has been the Director of Sugarbeet Advancement for 17 years.



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Taking a Look at the

Cercospora Burn of 2015

Wow, what a year! Michigan Sugar Company's average yield was 31.6 ton per acre. While it was a record yield overall, the Company lost a minimum of a ton per acre due to Cercospora infection throughout our growing area. Not only did we lose tonnage, but more importantly, we lost sugar content at a minimum of 1% off the Company average. Growers whose fields were infected lost money, directly, and everyone lost money with the lower percentage sugar.

by David Pratt, Chief Agronomist

So what happened? Why was Cercospora infection so severe in a large portion of our beet growing area? The infection level we encountered had nothing to do with effort! There were growers who sprayed four and five times and had significant Cercospora infection. Why did some fields have significant infection and others very little? Why were entire growing areas essentially not affected; was it the weather/environment, the variety planted, fungicide used, timing, number of applications, when they received rain, and how much, or the presence of the pathogen? The list goes on.

continued on page 16



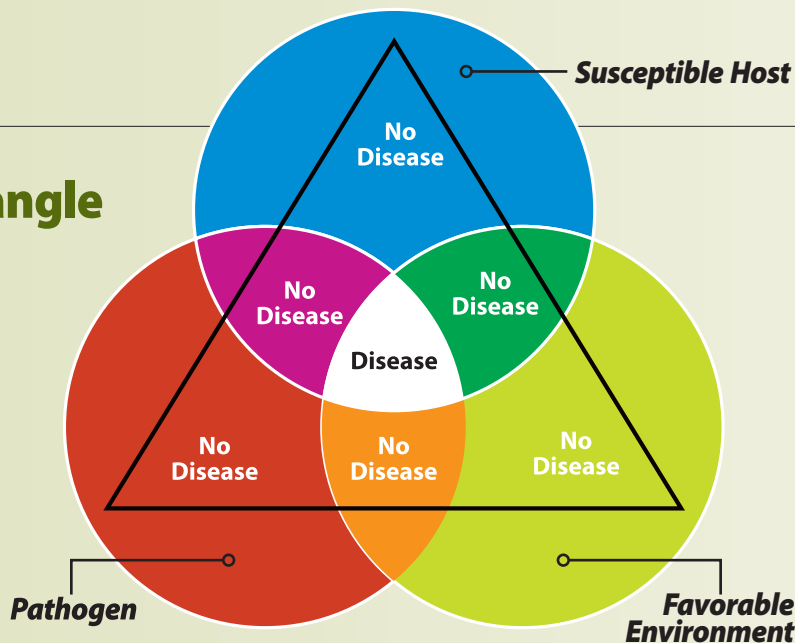
David Pratt is Chief Agronomist at Michigan Sugar Company. He works with staff to identify research opportunities and evaluate data and assists Agriculturists and growers with educational training and support. David joined the Company in 2015.



PLANT DISEASES: The Disease Triangle

In order for a disease to occur, three things need to be in place at adequate levels (pictured in the disease triangle at right).

- ① A susceptible host; currently, all of our sugarbeet varieties are susceptible to *Cercospora* infection. Although some have better tolerance than others, none have enough tolerance to forgo an intense fungicide management program when infection conditions are present.
- ② A favorable environment (weather conditions) that is conducive for infection to occur.
- ③ The presence of the pathogen at a level adequate for infection.



continued from page 15

Unfortunately, there are so many factors involved in managing *Cercospora*, coming up with a definite answer as to pinpointing what didn't work may not be as easy as identifying what did work. The reality is, as long as we know what did work, what does not work is not quite as important, but certainly nice to know so we can avoid those pitfalls in the future.

We know we have a susceptible host. We also have really good information and tools to determine when a favorable environment exists. What we do not know for sure is if the pathogen is present and if so at what level; therefore, the recommendation has been, and still is, to manage *Cercospora* based on environmental conditions using our BEETcast tool.

The fungicides currently available for *Cercospora* management are all protective; therefore, our management programs are designed to protect the plant from infection, similar to a vaccine.

During the fall, the Ag staff evaluated 200+ fields for *Cercospora* infection. Crop records for each location were evaluated to determine the growers' *Cercospora* management program. After evaluating each location for both infection level and management program, it became very apparent that some programs worked very well, even in areas of extremely high pathogen presence.

So what do we know consistently worked for sure? While the BEETcast program is not perfect, it is currently the best tool we have to determine when to start applying fungicides and one of the tools to determine when to reapply. After reviewing hundreds of grower records, in all cases where growers used BEETcast to determine when to apply a fungicide, and additionally used Michigan Sugar Company's recommended products for control, they had good *Cercospora* control, even in very hot *Cercospora* areas.

So what went wrong? There were two primary factors that caused the lack of control.

1. Spray intervals were too wide
2. Resistance to Strobilurin and Benzimidazole

Bottom line, if spray intervals were too wide, it did not matter what you used. If you were unprotected with a fungicide during a high infection period, then the odds were very high that your beets were infected during that time. The second factor causing potential unprotected plants is the use of products we know have reduced *Cercospora* protection due to pathogen resistance. It only takes a small percentage of spores to survive due to resistance to the fungicide for plant infection to begin. Unfortunately, once it starts, we have no products available to stop the spreading of the disease. If either of these two instances occurred during heavy infection periods, then the beets were at risk of infection. Unfortunately, unlike the last three or four years when *Cercospora* infection conditions were

low, we had two 7-10 day periods in mid-August and early September where *Cercospora* infection potential was extremely high (high daytime and nighttime temperatures with extended periods of leaf wetness); therefore, if a grower's field was unprotected for either of the two reasons stated above, severe infection in the high infection areas, where the pathogen was present, was pretty much guaranteed.

The weakness of the BEETcast program is that it only predicts environment; it does not measure pathogen presence. Therefore, we have to assume that every field has the pathogen present and have spray programs designed as an insurance policy. You cannot wait for lesions to appear on the leaves. If favorable conditions were to continue, severe burndown will occur no matter what you continue to apply. If BEETcast is indicating it is time to apply a fungicide, get it done sooner than later. Watch the forecast to avoid potential rain-out periods that could delay application. Data appears to indicate that you are better off to spray in front of a rain event than after it is time to spray.

Although we currently do not have research to support the use of stickers with the fungicides, several growers have indicated they believe that the use of stickers is helping to keep fungicides on the plant during rainfall events. They are not expensive to use and the benefit could be a huge advantage if they indeed help. ■



ABOVE: Chief Agronomist David Pratt inspects sugarbeet plants in a *Cercospora* leafspot stressed field.

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Crystal RR059

**2015 MSC CENTRAL DISTRICT
HIGH SUGAR PRODUCER**

Roth Bros. Farm
309.8 RWST
Crystal RR059

**2015 MSC WEST DISTRICT
HIGH SUGAR PRODUCER**

McKimmy Farms
313.7 RWST
Crystal RR059

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WHEN THE PRESSURE IS HIGH How Can We Control Cercospora Leafspot?

by Jim Stewart, Director of Research

After several years of relatively light Cercospora leafspot infestations, many growers were caught off-guard with the severe late season disease infections that we experienced in 2015. Normally, the risk of Cercospora peaks from the middle of July through the middle of August, then begins declining in late August and September. Last season, the disease risk did not fall off at the end of the season, but rather increased well into September (Figure 1).

Most of our fields were in pretty good shape until late in the season, when Mother Nature dealt us two separate high Cercospora infection periods. The first occurred during the middle of August and the second (and more intense infection period) lasted from the end of August until the middle of September. In addition, frequent rains during the infection periods prevented timely spraying.

As a result, fields that were not "well protected" with fungicides late in the season became infected, causing yield losses of up to five tons per acre and up to two points of lost sugar (e.g., 19% to 17%).

Growers can improve their chances of successfully controlling Cercospora leafspot by following the REACh publication, *Management Guidelines for Controlling Cercospora Leafspot in Sugarbeets – 2016*, located on the Michigan Sugar Company website. Recommendations include following a sound crop rotation plan, planting appropriate varieties for each field situation, using only fungicides recommended by Michigan Sugar Company and Sugarbeet Advancement and by following BEETcast for application timings. By utilizing BEETcast, we have identified distinct Cercospora risk zones (Red, Yellow and Green), when infections normally occur (Table 1) and the severity of the disease over time (Figure 2).

One of our major challenges is controlling Cercospora in our Red Zone fields when a nematode tolerant variety is needed. Most of the nematode varieties do not have adequate tolerance to Cercospora. Growers in Red Zones who are planting susceptible varieties need to begin fungicide applications at 45 DSVs with Inspire or Topguard (tank mixed with a protectant), followed by a second application of Super Tin + EBDC or Copper, 35 DSVs later (maximum of 15 days). The third application, an EBDC or Copper should be made 25 DSVs later (maximum of 10 days) and for the fourth application, repeat the Inspire or Topguard tank mixed treatment, applied 15 DSVs or a maximum of seven days after the third application. If additional sprays are needed (based on DSVs and the calendar date), work with your agriculturalist to determine which fungicide will be most effective when considering pre-harvest intervals.

In fields where leafspot has been particularly difficult to control, apply an EBDC or Copper at 35 DSVs, then begin the normal rotation with Inspire or Topguard at 50 DSVs (instead of 45 DSVs). Detailed information concerning application timings

Figure 1. Number of DSVs Per Day for a Normal Year • Compared to 2015

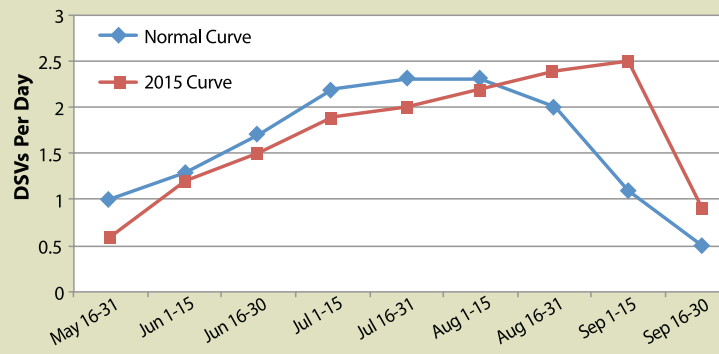
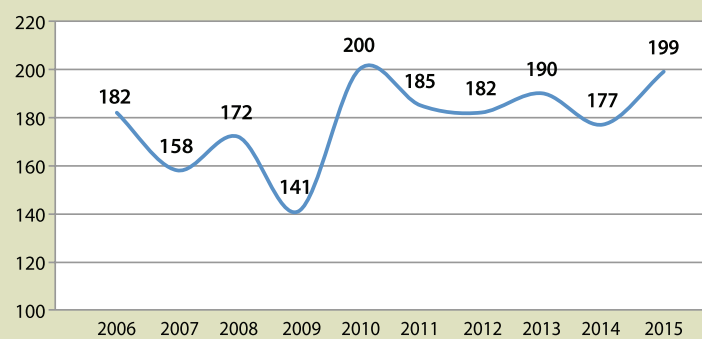


Table 1. When the First Cercospora Spot Was Found • 10 Year Average

LOCATION / AREA	DSV	DATE
Sebewing / Elkton Area	70	16-Jul
Bay City / Saginaw Area	72	16-Jul
Richville / Frankenmuth Area	72	16-Jul
Quanicassee / Akron Area	73	17-Jul
Breckenridge Area	75	19-Jul
Ruth Area	85	28-Jul
Sandusky Area	92	30-Jul
Au Gres Area	95	2-Aug

Figure 2. Average Number of DSVs per Year for Past Ten Years



Picture 1. Results in our test plot indicated that that strobilurin resistance had developed by 2011.

based on risk zones and varietal tolerance is contained in the REACH publication noted earlier.

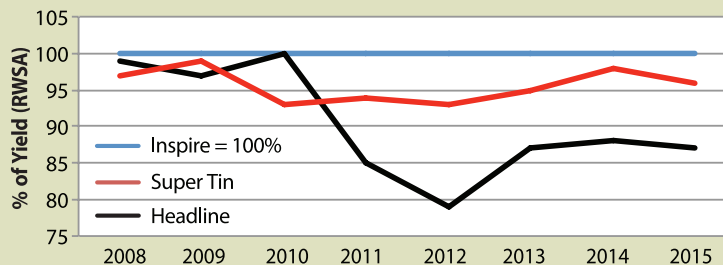
Our Cercospora leafspot standards for variety approval were relaxed at the beginning of the Roundup Ready® era because we did not have any varieties that met our approval standards. As a result, varieties entered prior to 2015 allowed a Cercospora tolerance level of 120, which was in the susceptible range. Varieties entered from 2015 to 2019 must meet a level of 107 (Moderately Susceptible) and, in 2020, the Cercospora level will be lowered to 97 (Moderately Tolerant), the same level we had before switching over to Roundup Ready varieties.

The development of Cercospora resistance to fungicides is of major concern for our Cooperative. Strobilurins (Headline, Gem, Priaxor) and Topsin M have developed widespread resistance and are no longer recommended (Figure 3). It is apparent from this yield graph, and from the test plot picture (Picture 1) that strobilurin resistance had developed by 2011. The deep dips in yield occurred in years when leafspot pressure was high.

Preliminary results from Michigan State University indicate that triazole fungicides (Inspire, Topguard, Eminent, Proline, and Enable) are also beginning to show signs of resistance in the lab, but not at field application rates, which indicates resistance will be here in time. When resistance to the strobilurins developed, it went very fast. Resistance to triazoles will be a slower process; however, complete resistance to triazoles could occur if we do not manage the situation properly.

We will need to follow sound resistance management programs to keep the triazole fungicides working effectively. Tank mixing and alternating fungicide classes will be necessary. Without including Super Tin in the rotation, it will be difficult to properly alternate fungicide classes. Figure 3 also illustrates the effectiveness of Super Tin over time as compared to Inspire. Disease control with Super Tin is not as good as Inspire, but its level of disease control has remained constant over time. Super Tin provides better leafspot control than EBDCs and Coppers.

Figure 3. Yield of Headline and Super Tin in Cercospora Trials vs. Inspire



Super Tin is fully approved by EPA and is safe to use when all label instructions are followed.

The Cooperative lost at least \$25 million last year due to the severe Cercospora leafspot infestation and individual growers lost up to \$400 per acre on fields that burned down. We cannot predict the Cercospora risk for 2016; however, considering the amount of Cercospora spores that were produced in 2015, we can expect leafspot infections to be worse than average next year. Sugarbeet yields and quality are improving each year; however, everyone needs to do their part and follow the Cercospora leafspot control guidelines to maximize the yield potential of the new varieties and help prevent the extreme economic losses that we experienced in 2015. ■



Jim Stewart, Director of Research, coordinates the agricultural research activities at Michigan Sugar Company and specializes in weed, disease and pest control, soil fertility, and other sugarbeet production practices. He has been with the company for 17 years.

Variety Approval: A Five-Year Plan

By *Brian Groulx, Research Assistant*

One of the main concerns in growing a quality crop is variety selection. Before varieties can be grown, they must go through a rigorous variety approval process. The goals of our variety approval system are to approve varieties with high levels of recoverable sugar per acre (RWSA) and recoverable sugar per ton (RWST), while also maintaining adequate disease tolerances for our growing regions. The variety approval system takes results from Official Variety Trials and disease nurseries and compares each new variety to the average value of our check varieties (HM-173RR, B-18RR4N, SX-1212RR, and C-RR059). The check varieties are chosen based on their consistent performance and longevity in the trials. For comparison purposes, the average of the four check varieties equals 100% for each of the variety approval categories: RWST, RWSA, Cercospora, and points system. All varieties are compared to this average of check and assigned a percentage value based on their performance; either better or worse than the check. For RWSA, RWST, and the points system, a higher percentage number is better. For Cercospora, a lower percentage number is better. Approval levels for each of the four variety approval categories are voted on by the Seed Committee and approved by the Board of Directors. Although check varieties change from time to time based on seed availability, the approval levels are adjusted so they maintain the levels approved by the Seed Committee and Board of Directors.

A new five-year plan has been accepted for potential varieties that will be submitted for testing beginning in 2020. The current RWSA level is 92.38% of check, and for 2020 this level will

increase to a minimum of 98.24% of check. The current RWST level is 101.92% of check, and for 2020 this level will increase to a minimum of 102.73% of check. The current Cercospora tolerance level is 107.35% of check, and for 2020 this

level will decrease to a maximum of 97.65% of check. For Cercospora, a lower number means better disease tolerance. Special approval varieties will also be subject to a maximum Cercospora tolerance level of 107.35% of check in 2020, which is the current tolerance level of fully approved varieties. The point system value for 2020 remains unchanged from previous years' variety approval at the level of 85.77% of check. A new approval standard that will be implemented in 2020 is a Root Aphid tolerance level of 40% or lower, based on nursery results.

What does all this mean, and how does it affect the grower? Increasing the minimum RWSA and RWST levels means that varieties will have higher yield and quality, thus making them more profitable. Decreasing the maximum allowable disease

tolerance levels means that varieties will be required to have better genetic tolerances to disease. This will help the grower better manage these varieties with the fungicides that we have available.

Why does Michigan Sugar Company implement five-year variety approval goals? Breeding new varieties takes time and investment. The two main reasons we implement five-year plans for variety approval are to give plant breeders from each of the seed companies time to develop new varieties, as well as the assurance that the target levels will not float around from year to year.

Variety approval is the culmination of many years of variety research, by both the seed companies who submit new varieties and by the Michigan Sugar Company Research Department putting them through the variety testing. It is a necessary process to ensure that new varieties have the yield, quality, and disease traits necessary for our growers and Cooperative to remain profitable for years to come. ■



ABOVE: The research planter allows us to test a variety of seeds in specific settings, fungicides and other treatments we have available.



Brian Groulx is a Research Assistant with Michigan Sugar Company. He has worked in research since 2009.



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PERSONNEL PERSPECTIVE

A Fine Farewell

In 2016, our Agriculture Department will be without the leadership and guidance of two passionate, long-serving employees; Paul Pfenninger and Gary Sauer. Their combined 80 years of knowledge and knowhow will be missed.

Paul began his career at Michigan Sugar Company in the Ag lab. After three years, he jumped at the opportunity to join Monitor Sugar's Ag group, eventually working his way to heading up the department as its Vice President. After the merger with Michigan Sugar, Paul's responsibilities expanded from one factory to four, and five receiving stations to 13. Paul greeted each of these challenges with a great deal of enthusiasm.

Paul's rapport with growers was a true asset. His willingness to discuss any topic, issue or concern was appreciated by all of our shareholders. During Paul's 38 years in the industry he developed relationships that will last well beyond his working days in the Michigan sugarbeet industry.

For many, many years, Paul has been supported by Gary Sauer to make sure the beet receiving equipment was ready for harvest. Gary's "behind the scenes" efforts were not broadly known by many outside the Ag Department. The vast knowledge Gary accumulated during his 42-year career will be difficult to replace. Starting out as a mechanic in the Ag shop, Gary learned about beet pilers from the ground up. He was familiar with nearly every sprocket, bearing and grab roll on all 70+ pilers. As the Agricultural Maintenance Manager of the Ag department, Gary kept a keen eye on maintenance and capital project budgets, always making sure projects came in on time and on budget.

The Co-op will move forward without Paul and Gary's daily insights, and will build upon the solid foundation they established during their careers. We thank Paul and Gary for their numerous years of dedication to our company and our industry and wish them the best in their retirement. ■

PAUL D. PFENNINGER

Paul joined the Monitor Sugar Co. Agricultural Staff as Agronomist on June 1st, 1981.

Mr. Pfenninger was born on a small farm in Bay County and attended T. L. Handy High School. He graduated with honors from Central Michigan University in 1977 with a Bachelor of Science Degree.

Paul has been an employee of Michigan Sugar Co., working in their Agricultural Laboratory in Carrollton the past three years.

In addition to his duties as agrono-



mist for Monitor Sugar Co., Paul will also accept the responsibilities of editor for *Big Chief News* and as the 4H-FFA leader.



ABOVE: Paul shows off a prize sugarbeet with fellow employees.

ABOVE, RIGHT: A clipping from *Big Chief News*, Fall 1981.

LEFT: Retirees Paul Pfenninger and Gary Sauer at the Bay City factory and piling grounds during their final fall campaign.



ABOVE: Gary (center) checks out the equipment with Marv Wood (left) and David Leach (right) in April 2000.

LEFT: Gary surveys part of his domain, the piling grounds, in October 1999.



Get to Know Your Board

I know we have grown beets on our farm for at least 75 years; perhaps longer. The 75 years comes to mind because I remember my dad (Jack Tagget) telling us stories about the German POWs who lived with my grandparents during WWII who used to help with harvesting sugarbeets, which at the time was very labor intensive. Luckily, my grandfather could speak some German!

Patrick Tagget Michigan Sugar Company Board of Directors Frankenmuth, Michigan

Pat Tagget's fifth generation Tagget family farm operation, dating back to circa 1875, is located in Spaulding Township in Southern Saginaw County (nearest the Albee pile ground). He and his brother, Mike, farm 950 acres with a rotation of corn, soybeans, wheat, and sugarbeets. They grow 150 acres of sugarbeets annually.

Pat and his wife, Kathy, have been married 21 years and have two sons; Jack, 18, and Sam, 15. The boys attend Frankenmuth High School and participate in football, baseball, golf, and snowboarding club. As a family, they enjoy boating, water skiing, fishing, hunting, snowboarding and snow skiing. Kathy is a court reporter in the Saginaw County Circuit Court, and is planning on retiring in March of this year. Pat says he is actively recruiting her to be their 'beet topper chick' beginning with the 2016 harvest.

Pat has served on multiple non-profit boards over the years, including the Great Lakes Bay Miracle League, Saginaw County Children's Zoo at Celebration Square, United Way of Saginaw County, Frankenmuth Youth Football and Cheerleading, Inc., and the Frankenmuth Youth Baseball and Softball Association. He is also a 1988 Leadership Saginaw Alumnus. Pat holds a

bachelor's degree in economics and management from Albion College and is a Certified Public Accountant with a Chartered Global Management Accountant designation.

"Since the first time my father put a hoe in my hands at eight years old," Pat says, "I have been involved with the family farming operation and sugarbeet production; close to 40 years." Due to size limitations of the family farm, however, it was necessary for him to seek an off-farm career while maintaining the flexibility and availability to assist with spring planting and fall harvest. For the past 26 years, he has balanced the demands of a full-time professional career with the passion, desire, conviction, and resolve necessary to assist with the family farm.

Pat shares, "Sugarbeets are a very stable, high-margin, crop that we are very fortunate to have the opportunity to raise on our farm. They have been a consistent high return crop and will continue to be so for many years to come. Whether you grow 150 acres or 1,500 acres, the level of importance to each individual farm operation is the same." ■

RIGHT Patrick's family are big supporters of Frankenmuth Youth Football and other athletic programs; They are, from left to right, his youngest son Sam, wife Kathy, and eldest son Jack. **BELOW** Patrick Tagget joined the Michigan Sugar Company Board in 2015.





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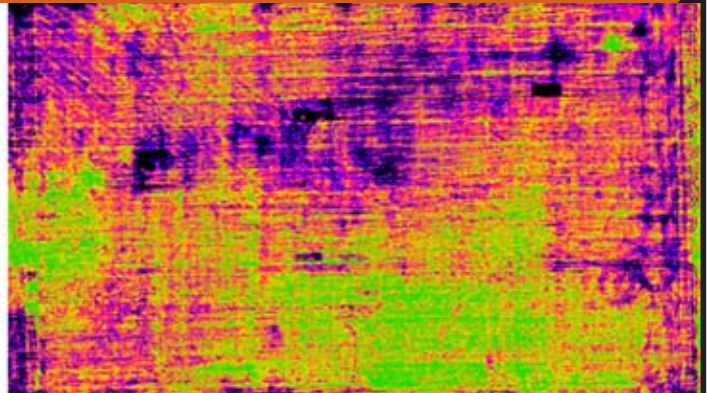
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ABOVE, LEFT TO RIGHT:

Ross Knoerr and Kim Knoerr have begun to grow sugarbeets — as their father once did — on their individual farms in Bay County.

Knoerr Brothers Renew Family Tradition of Growing Sugarbeets

by Rudy Schlatter, Agriculturist



It is not the first time sugarbeets have been part of the Knoerr family's rotation, but the ground had not seen them in a few years. Kim and Ross Knoerr grew up on a farm in Bay County growing sugarbeets, soybeans, corn, edible beans, and wheat. Their father, Ron, ran the operation, farming approximately 900 acres with around 140 of that being sugarbeets. The boys spent most of their younger years doing what most farm kids their age did; hoeing. They started working in the fields so young that Kim remembers their parents would have to eventually stop them from hoeing because they would lose sight of them over the soybeans. The brothers continued to help their father through grade school and on into high school. Right around the time of the merger of Michigan Sugar Company and Monitor Sugar, their father, Ron, decided to scale back on acreage and stopped growing sugarbeets. Although both boys eventually started their own careers, they always found time to help their father on the farm.

Ross started college, but shortly after was offered a job with Dow Corning, where he works today as an electrician. He lives close to home, so is always available to lend a hand. Kim took the college route, starting locally at Delta and moving onto Saginaw Valley State University where he received his bachelors in chemistry, while working as a college co-op at Dow Chemical. He continued on with his education, taking an accelerated course at Northwood University in Switzerland where he received his MBA. Today, he is a loan officer for Greenstone Farm Credit Service in Bay City. He settled down a little further from home in Mayville and makes the daily commute to both his job and the farm when needed.

In 2013, Ross and Kim didn't think that they had enough on their plate and got the crazy idea to try growing sugarbeets again. They both bought in; Ross buying 38 shares and Kim 40. Taking a page from their father, they decided to keep their farms in their own names; Kim Knoerr Farms and Ross Knoerr Farms. Instead of diving in head first, they have slowly been purchasing what they need.

They were not fully equipped for sugarbeets their first year and had their cousins custom harvest their crop. Starting in 28" rows and using Crystal 74NT and Beta 18RR4N, they broke the ice that first year. They did everything from Quadris in-furrow to following their Cercospora spray program, and ended up with an average tonnage and sugar for their district. There was enough profit and interest to purchase a harvester and

defoliator for the next year. The decision to change seed varieties in 2014 put them above average in both sugar and tonnage. This past year's yield was the best they have experienced and hope to increase tonnage and sugar with minor changes to fertilizer, spray programs, and seed variety. The brothers have even decided to switch to 22" rows in hopes of increasing their beet yield, sugar content, and quality, while taking advantage of narrow-row spacing on other crops. Neither one plans on giving up their day job, but both are happy to be carrying on the family tradition of growing sugarbeets on their farms. ■

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Rudy Schlatter is an Agriculturist with Michigan Sugar Company. He obtained his Program of Study Certificate in Agriculture from Northwest Iowa Community College.

How I Became an

By Maria Brown, Newsbeet Freelance Writer, St. Clair County

26-year-old Rita Herford is a busy young woman! In addition to farming, she was honored at the White House in September 2015 as a “Champion of Change” and, as a GMO spokeswoman for Michigan Sugar Company, Rita is communicating with consumers from across the globe through social media.

After graduation, the land called Rita Herford home but soon her passion for agriculture was taking her places far beyond her family’s Huron County farm.

The 26-year-old was honored at the White House in September as a “Champion of Change” and, as a GMO spokeswoman for Michigan Sugar Company, Rita is communicating with consumers from across the globe through social media.

Rita, a fifth generation grower, farms with her brother, Eric Gentner, and mom and step-dad, Debbie and Allen Bischer at Gentner-Bischer Farms near Harbor Beach. In 2015, they grew nearly 1,100 acres of sugarbeets, along with wheat, corn, dry beans, and soybeans.

Realizing the general public’s lack of knowledge about agriculture prompted her to become an “advocate.”

“There’s a lot of misinformation out there, especially when it comes to GMOs and what farming looks like today compared to 50 or 60 years ago,” she said.

“It’s important that they know about the technologies we use and that farming is a business and that business isn’t a bad thing. Farmers need to tell their story.”

To that end, Rita takes opportunities to spread her message. She’s made presentations to the Bad Axe Rotary Club, spoke before an agriculture class at Saginaw Valley State University and, in late November, was due to visit a seventh grade classroom in Ubyly where students have been studying genetics and, according to their teacher, had a lot of questions about genetically modified organisms. She has given tours of the family’s operation and maintains social media accounts on Facebook and Twitter that document everyday happenings on the farm.

Launched just a year ago, the Gentner-Bischer Farms Facebook page already boasts more than 400 followers including some from places like Germany and Brazil. Family members post many photos of their daily activities from harvesting beets to repairing equipment and use their platform to explain their sustainability efforts, like why they utilize cover crops.

“It’s amazing to see a 20-second video of a combine or beet harvester get 3,000 views. These seem like little things to a farmer, but people want to see it,” Rita notes.

“It’s really easy to take a picture and post it. Don’t be afraid to tell people what you’re doing.”

Rita was nominated for the “Champions of Change” honor by the Kellogg’s Company whom she has worked with as a member of their Origins™ Great Lakes Wheat Program.

She was surprised to learn she was chosen, but didn’t realize just how elite of a group she was being named to until, during a conference call, a White House official noted that the 11 honorees were chosen from a field of 1,000 applications.

“That’s when my eyes were opened and I realized what an honor this really was,” she recalled.

Rita and her mom made what was a first-time trip for both to the nation’s capitol. “Meeting the other recipients—all were young women leaders—and learning about their passions was a humbling and inspiring experience,” Rita said. Although she wasn’t able to have a face-to-face with the President, she was thrilled at the chance to visit with the Deputy Secretary of Agriculture, Krysta Harden.

Rita’s efforts and accomplishments are particularly impressive considering her age but she’s anything but a novice. She started driving tractor at the age of 13, given jobs like topping beets, picking stones and cultivating ground.

“I took my first load of wheat to the elevator when I was 16,” she recalls.

“When I came home from college and got into farming full-time I started planting our corn, running the combine and sprayer and now I load all the sugarbeets ... you kind of work your way up.”

With that kind of in-field knowledge and experience, Rita can give concrete examples of just how beneficial technology, and particularly, genetically modified crops, are on the farm.

“I love telling people how GMOs have reduced our need to spray crops like sugarbeets from every ten days to now just three times a year,” she said.

“Know that people are always listening and most people are just curious about GMOs. Tell them what you know and how GMOs are helping your farm. Don’t be afraid to talk about them.”

Rita also serves as an example of the changing face of agriculture. Most people are surprised to learn that agriculture is her full-time job.

“The public thinks you’re a farmer’s wife, but this is my career also,” she said. Rita and her husband, Luke, farm individually with their respective families.

Her advice to other girls and young women who are considering a similar career path ... “Go for it, but expect challenges along the way.”

“Don’t be afraid to do it if that’s what you want to do. The first year is the hardest when it comes to transitioning into the operation and learning everyone’s place in it. I’m fortunate that my step-dad let me jump in right away,” Rita said, noting that in some families it is hard for farm patriarchs to let the next generation assume operations, whether they are male or female.

“My family has been very supportive of my decision to come home to farm.” ■



ABOVE Rita Herford was honored as a Champion of Change at the White House in 2015. **RIGHT** Rita is first and foremost a farmer, along with, left to right, her mother Debbie Bischer, her brother, Eric Gentner and her stepfather, Allen Bischer.



Maria Brown is a news reporter and freelance writer based in St. Clair County where she and her husband, Tim, grow sugarbeets, corn, soybeans, wheat and hay.

“Agvocate”



High Sugar Producers 2015

EAST DISTRICT • DNL Farms, Harbor Beach, MI

The East District's High Sugar Producer for Crop Year 2015 was **DNL Farms** of Harbor Beach, Michigan. DNL Farms is a partnership consisting of Dan and Lily Roggenbuck, with their son, Nick. The Roggenbuck's prize field produced 332.15 pounds of recoverable sugar per ton (RWST). The 33-acre field was planted on May 5, 2015, with American Crystal C-RR059 seed variety. The field was harvested on November 17, 2015, yielding 33.06 tons per acre and 21.61% sugar.

DNL Farms work approximately 1,000 acres of land near the Verona receiving station. Crops that are raised by the family include 280 acres of sugarbeets, 250 acres of corn, 160 acres of dry beans, 150 acres of wheat, and 150 acres of soybeans. Beef cattle (1,000 head) are fed out on the home farm as well. Summers and fall harvest are particularly busy for this family since they operate a custom harvest business supplying chopped feed for local dairy farms. They custom harvest over 2,000 acres of crops from Port Hope to Ubly.

DNL Farms grows their sugarbeets in 20-inch rows (use an 18-row planter), using seed treatments to combat early seedling disease, Quadris (sprayed very early), and watching the BEETcast model to help make decisions on when to apply Cercospora leafspot fungicide applications. In 2012, the partnership switched from a conventional pull-type harvester to a Holmer self-propelled beet harvester. Dan is the main harvester operator; he harvests some 600 acres of beets. The main advantage of the self-propelled style is that only two people are needed to harvest the crop (one operating the harvester and one running the cart), according to Dan. They take every step they can to keep the trucks out of the fields at harvest time. The use of a homemade beet cart (30+ ton capacity) with tracks is vital to efficient operation and keeping compaction to a minimum.

The Roggenbucks belong to a partnership (Triple Sweet Loading, LLC) that owns and operates a field loading operation in the area. This group consists of three families who are related back several generations. Triple Sweet field cleans, loads, and transports 86,000 tons of beets with some 16 large trucks.

Congratulations Dan, Lily, and Nick for your record high sugar producing field! ■



ABOVE: Roth Brothers Farms members, left to right, Forest Roth, Les Roth, Gavin Roth, and Phil Roth, worked together to produce and harvest their award-winning sugarbeet crop with 20.26% sugar for the Central District.

CENTRAL DISTRICT • Roth Brothers Farms, Bad Axe, MI

The Central District High Sugar Producer for Crop Year 2015 is **Roth Brothers Farms**, located just south of Bad Axe. With an RWST of 309.82, this field was planted in 30-inch rows on April 19 using a John Deere 1760 12-row planter with Precision Planting. This field was harvested on November 11 with an Artsway 692. These 78 acres were located on Section Line Road and had a 20.26% sugar!

Roth Brothers Farms, consisting of brothers Les and Phil Roth, was started in 1974 as a small dairy farm with only 160 acres. Now, almost 50 years later, a second generation (Gavin and Forest Roth) is starting to transition into the family business. They sold the dairy in 2001 and increased their annual acreage from the original 160 acres to the 1,400 they farm today. Crops have also been diversified over time and a strict four-year rotation has been put in place, with corn, edible beans, sugarbeets and wheat.

Shock and contentment were the emotions running through the Roth family at the Central District annual meeting this past December. They attribute this year's success to their rotation, variety selection, and following the Cooperative's spray recommendations. Furthermore, they claim they were blessed with perfect weather and just the right amount of sunshine!

"Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives." —William A. Foster

These words ring true in relation to Roth Brothers Farms. Congratulations on a job well done! ■



LEFT: Dan Roggenbuck display his High Sugar Producer award plaque shortly after receiving it. **FAR LEFT:** Dan, with his son, Nick, work DNL Farms along with Dan's wife, Lily (not pictured).

The High Sugar Producer prize is awarded to Michigan Sugar Company grower members from our three districts whose harvested sugarbeets have the highest RWST. The award plaque features a traditional beet field knife, one of the first tools used in the harvesting of sugarbeets.

WEST DISTRICT • McKimmy Farms, Beaverton, MI

The McKimmy family farm began in 1906 when Great-grandpa Luther purchased a 140-acre farm and went into the dairy cattle business while raising his family. Out of this family, a son was born; Paul. Paul subsequently took over and ran the family farm until 1975 when the dairy barn burned down. At that point, Paul's son, Tom, took over the family farm along with his family. Tom was an elementary school teacher and part-time farmer growing corn and soybeans on 250-300 acres. Tom had two sons, Matt and Andy. As the boys grew up, it was apparent that farming was in their genes. Matt purchased his first farm in 1995 and Andy in 2000. The McKimmys started growing 40 acres of sugarbeets in 1997 when Monitor Sugar built a receiving station in Hope, Michigan.

In 2004, Tom, Matt, and Andy, along with their spouses formed McKimmy Farms, LLC, growing 1,200 total acres of sugarbeets, corn and soybeans. Today, Tom is retired and together Matt and Andy are farming 2,660 acres; consisting of 260 acres of sugarbeets, 400 acres of cucumbers, 1,000 acres of dry beans, and 1,000 acres of corn.

McKimmy Farms won the West District High Sugar Producer award based on their beets grown on Larry Giegler's farm, located in Gladwin County. Their plans for the beet crop started in the Fall of 2014 when they planted a wheat



ABOVE: Andy and Matt McKimmy from McKimmy Farms in Gladwin proudly show off their award at their farm in Gladwin County. Their 2015 crop of sugarbeets, with an RWST of 313.72 pounds, made them the West District High Sugar Producer award winner!

cover crop into dry bean stubble while applying potash and phosphorus. They started the season off by planting ACH-59 with their Monosem planter, while applying Quadris in furrow, at a population of 55,906. They also applied a 2x2 band of 19-17-0 with the planter. After the plants emerged they side dressed 100 pounds of 28%. Throughout the growing season, Matt and Andy applied two applications of RoundUp® and three fungicide sprays. Inspire, Super Tin®, Eminent®, and EDBC were the materials used. The beets were harvested with an Artsway 692 eight-row harvester, and then delivered to the Hope receiving station using four semi-trucks.

Congratulations on a job well done, Matt and Andy! ■

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YOUTH PROJECT 2015

Annual Activities and Awards Banquets

The area Youth Project had 154 participants in 2015; Central District (Caro, 30, and Sebawaing, 45), West District (35), and East District (U.S., 33, and Ontario, 11). Program students are required to attend local club meetings, display a sugarbeet sample or present a poster at their local county fair, complete a project book containing crop information, a field map and a story.

The students are invited to attend an informational field day held in July at the Saginaw Valley Research and Extension Center, where they are tested and interviewed regarding their sugarbeet production and general sugar industry knowledge. This year, they were also provided safety training on subjects like fire safety, grain entrapment, first aid basics, and much more. More than 100 students attended this great educational event.

Each year, the participants have an opportunity to attend a summer fun day. On June 25, the youths were taken to Comerica Park to see the Detroit Tigers play the White Sox. The event was well attended and everyone had an enjoyable day.

The Youth Project award banquets were held in January in the various district areas to reward the students for their hard work. Participation in the event days and local fairs, as well as scoring on testing and interviews, determine the Prestige and Premier winners from each area. All students receive some great gifts for participation, with the Premier and Prestige winners receiving additional special award prizes.

We thank all of the students who participated in this past year's program, as well as their parents who encourage them to learn more about the importance of our industry. ■

YOUTH PROJECT REQUIREMENTS:

- Must be between the ages of 8-18.
- Attend a Youth Sugarbeet Project orientation meeting prior to starting the Project.
- Make an exhibit or presentation at a local county fair.
- Attend the annual Youth Project Field Day held at the Saginaw Valley Research and Education Center. This is a very informative day that the young people learn about research, diseases of the beet, beet production practices, and county fair beet display preparation.
- Complete the Sugarbeet Project booklet, take a written test, and be interviewed by an Ag staff employee.

PROJECT BENEFITS AND AWARDS:

- Great learning opportunities!
- A summer trip is planned and offered to each participant. Past trips have included the Henry Ford Museum, Greenfield Village, Dow Diamond for a Great Lakes Loons baseball game, Detroit Zoo, and Comerica Park for a Detroit Tigers game.
- Award Banquets each January to recognize participants for their accomplishments.
- All participants receive participation gifts for being in the program. Those who excel receive awards as Premier and Prestige Growers.

TOP TO BOTTOM: The West District Prestige winners, Chris and Kayla Ratajczak; Central District Prestige winners, left to right, Grant Gremel, Eric Mossner, Abigail Schuette, Nathan Bublitz, and Jordan Maust; East District Prestige winners Luke Gehring and Kara Maurer proudly display their award plaques, East District Prestige winner Lauren McKerrall (inset) is all smiles. Youth Field Day and activities 2015.

WEST



CENTRAL



EAST



**YOUTH
FIELD DAY
& ACTIVITIES**



BELOW: A bird's-eye view of the activities from an ag drone!



2015 AWARD RECIPIENTS

WEST DISTRICT

PRESTIGE WINNERS

- Kayla Ratajczak (parents, Chris and Karla Ratajczak, Munger)
- Chris Ratajczak (parents, Chris and Karla Ratajczak, Munger)

PREMIER WINNERS

- Kelly Ratajczak, Josh Haubenstricker, Katie Ratajczak, Jeremy Hecht, Rylyn Hrabal, Kyle Ratajczak, and Lily Wendland

CENTRAL DISTRICT

PRESTIGE WINNERS (CARO AREA)

- Eric Mossner (parents, Mark and Pam Mossner, Frankenmuth)
- Nathan Bublitz (parents, Curt and Ann Bublitz, Fairgrove)

PREMIER WINNERS (CARO AREA)

- Hans Bierlein, Cassie Keinath, Abbey Hecht, Jennifer Smith, William Keinath, Macy Zwerk, and Abbie Bauer

PRESTIGE WINNERS (SEBEWAING AREA)

- Grant Gremel (parents, Joel and Lyndsay Gremel, Sebewaing)
- Jordan Maust (parents, Ben and Beth Maust, Bay Port)
- Abigail Schuette (parents, Darrin and Tracy Schuette, Cass City)

PREMIER WINNERS (SEBEWAING AREA)

- Alexis Bushey, Shaun Gayari, Aaron Maust, Luke Retford, Mitchell Richmond, Alexis Schuette, Mitchell Schuette, Alex Smith, and Andrew Smith

EAST DISTRICT

PRESTIGE WINNERS -

- Luke Gehring (parents, Paul and Tracy Gehring, Harbor Beach)
- Kara Maurer (parents, Duane and Diane Maurer, Harbor Beach)
- Lauren McKerrall (parents, Rob and Maureen McKerrall, Chatham, Ontario)

PREMIER WINNERS -

- (U.S.) Lindsey Learman, Derek Thom, Justine Roggenbuck, Madison Roggenbuck, Colin Roggenbuck, Jennifer Gentner, and Hannah Leen
- (Ontario) Emma Richards, Ryan McKerrall, and Sarah Campbell

WANTED

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OUR OUTREACH IMPACTS FUTURE CAREERS

by Ray VanDriessche, Director of Community and Government Relations

Michigan Sugar Company receives multiple requests throughout the year from students in connection with science projects that they are working on. They are usually looking for information connected with the production and processing of sugarbeets, as well as the by-products that are spun off in the process. The students range in age from third grade level to college level; students who have a real interest in learning how something as common as the sugar they see on their table every day is extracted from sugarbeets. This type of request aligns perfectly with our goal to support and promote STEM (Science, Technology, Engineering and Math) education and career opportunities through community outreach to grade school students and high school students, as well as career-minded young adults.

One such student request came from nine-year-old Isaac Hales who attends the Bay City Academy. Isaac had a real passion to learn how sugar was made and requested a tour of our Bay City factory. Isaac toured the factory along with his mother, Andrea, last winter and was fascinated by the process so much so that he decided to take his project to another level. Isaac, who is a very advanced student testing at high school levels, along with some guidance from his grandfather, worked over the summer on a college-level science project that involved growing and actually processing the sugarbeets into sugar. He then presented his project at the Fall American Chemical Society Scientific Conference in Midland, competing against college students. Isaac may not have

won the competition, but his in-depth knowledge of sugarbeet processing impressed many at the science-based conference — and us as well! Shortly thereafter, Isaac was featured on an ABC TV-12 special called “Good Kids” for entering his project in the college-level competition. Congratulations to Isaac and his family!

Another opportunity to promote STEM and partner with the community presented itself when Matt Felan, CEO of the Great Lakes Bay Regional Alliance and a member of the Bay City Noon Rotary Club, asked Michigan Sugar Company if they would be interested in allowing students from the Bay County area to job shadow a number of career paths at our Bay City facility. Our Operations staff jumped at the chance and enjoyed sharing their skills with the high school students during the Rotary Vocational Days.

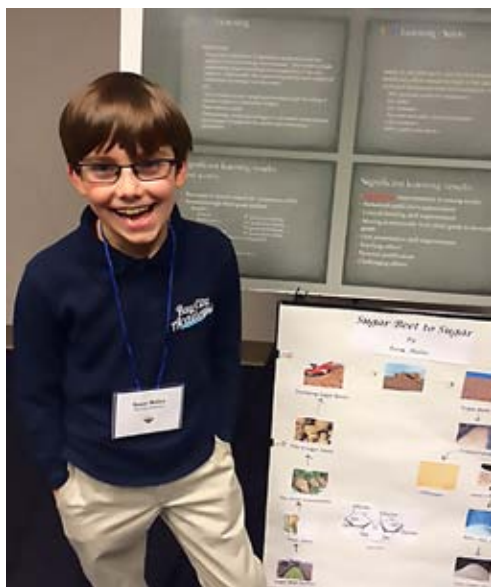
Matt provided the following summary of the Student Vocational Job Shadow Program at the Bay City location:

“For the past 40 years, the Bay City Noon Rotary Club has annually hosted Rotary Vocational Days. The Vocational Days program was set up so students from across Bay County can have an opportunity to see various careers firsthand. This year, Rotary Vocational Days hosted over 150 students from Bay City Central, Bay City Western, Bay City All Saints, Bay City John Glenn, Essexville Garber, Pinconning, and Saginaw Valley Lutheran. Michigan Sugar Company was gracious enough to host six students from Bay County schools in several career paths including the

control room, lab/quality testing, electrical, welding, and packaging. This was truly a program that benefitted Michigan Sugar Company and the Bay City Noon Rotary Club, but most importantly, it provided students from our area high schools the firsthand experience of what career path may appeal to them as they make decisions for the future.”

Michigan Sugar Company also offers internships to promote STEM and educate career-minded young adults in a number of skill sets, both in the factory and in administration. In the past five years, 12 young adults have spent eight to ten weeks during the summer interning with its Communications & Public Relations Department, Information Systems (IT), Sales and Marketing, Packaging and Warehousing, and with the Agriculture Department research staff. At the end of their internship, it is very common to hear “This experience has really given me a whole new insight on what direction I may want to take for my future career path. Until I had the chance to actually use my hands and mind to work in this type of job, it was just kind of guessing game. Not only did I learn a lot and enjoy this last few weeks, but now it easier to decide what I may want to do for a career.”

It is clear to us that the outreach to students and young adults not only benefits them, but our cooperative, as we see the possibility of future employees gaining a better understanding and interest in our business and industry. ■



ABOVE: After touring Michigan Sugar Company's Bay City factory, nine-year-old Isaac Hales was fascinated by the process so much that he created a science project for a college-level competition.



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